NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review

Permit Issue Date:

Region: Raleigh Regional Office
County: Vance
NC Facility ID: 9100069
Inspector's Name: Will Wike
Date of Last Inspection: 06/24/2015
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Ardagh Glass Inc.

Facility Address:
Ardagh Glass Inc.
620 Facet Road
Henderson, NC 27537

SIC: 3221 / Glass Containers
NAICS: 327213 / Glass Container Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP:
NSPS:
NESHAP:
PSD:
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Heather Harper EHS Manager (252) 430-3602 620 Facet Road Henderson, NC 27537+0887	Stephane Jean Plant Manager (252) 430-3651 620 Facet Road Henderson, NC 27537	Robert Metzger Environmental Engineer (765) 741-7116 1509 South Macedonia Avenue Muncie, IN 47307

Application Data

Application Number: 9100069.15A
Date Received: 07/06/2015
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data
Existing Permit Number: 02834/T24
Existing Permit Issue Date: 03/17/2016
Existing Permit Expiration Date: 04/30/2018

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	143.73	516.54	19.86	72.36	54.23	3.61	2.02 [Hydrogen chloride (hydrochlori]
2013	150.68	515.35	19.82	72.32	52.38	3.08	1.54 [Hydrogen chloride (hydrochlori]
2012	152.32	515.72	18.38	65.90	60.80	2.66	1.26 [Hydrogen chloride (hydrochlori]
2011	117.11	636.24	19.42	58.53	79.94	3.49	1.83 [Hydrogen chloride (hydrochlori]
2010	126.17	609.60	19.36	24.18	64.77	1.50	1.00 [Hexane, n-]

Review Engineer: Joseph Voelker

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 02834/T25
Permit Issue Date:
Permit Expiration Date:

I. Introduction and Purpose of Application

Ardagh Glass Inc. (AGI) owns and operates a glass container production facility located in Henderson, North Carolina. AGI would like to address the following: (*the following text is from the application*)

Saint-Gobain Containers, Inc. (now AGI) agreed to a global consent decree (GCD) with EPA and several states, including North Carolina, and NCDENR, which was entered by the United States District Court for the Western District of Washington at Seattle on May 7, 2010. Paragraph IV.8.g.iii of the GCD requires that AGI submit a complete application to the state/local permitting authority by June 30, 2015, for two federally-enforceable S02 emission limits measured on a 30-day rolling average for each of the process-controlled furnaces listed in Table 4 of the GCD. One limit applies during times when the furnace is producing flint (clear) glass and the other limit applies when the furnace is producing colored (any other) glass. The Henderson Furnaces are process-controlled furnaces listed in Table 4 of the GCD. Under the GCD, the requested SO2 emission limits apply beginning on the date of the permit application, except during periods specifically excluded as described in the application.

As required by the GCD, this application requests federally-enforceable S02 emission limits measured on a 30-day Rolling Average Emission Rate for the Henderson Furnaces.

This application will be processed pursuant to the significant modification procedures of 15A NCAC 02Q .0516.

II. Chronology

(Only critical path related events are presented)

Date	Description
07/06/2015	Application was received and assigned app. No. **<u>9100069.15A</u>** and deemed complete via acknowledgement letter.
05/03/2016	Preliminary draft permit submitted to the Permittee for review.
05/13/2016	Final preliminary draft comments received by the Permittee
~~MM/DD/YYYY~~	~~Draft permit published on NCDENR website for concurrent public and EPA review pursuant to TV permitting requirements.~~
~~MM/DD/YYYY~~	~~Public comment period ended. No comments received.~~
~~MM/DD/YYYY~~	~~EPA review period ended. No comments received.~~

III. Modification Discussion/Regulatory Review

As mentioned in Section I above, Paragraph IV.8.g.iii of the GCD requires that AGI submit a complete application to the state/local permitting authority by June 30, 2015, for two federally-enforceable SO2 emission limits measured on a 30-day rolling average for each of the furnaces at Wilson.-One limit applies during times when the furnace is producing flint (clear) glass and the other limit applies when the furnace is producing colored (any other) glass.

Paragraph IV.8.g.iii also states that these limits shall apply during all Operating Days except during Furnace Startup, Maintenance of the Furnace, Malfunction of the Furnace, Color Transition, and Abnormally Low Production Rate Days. For these exception periods, Paragraph IV.8.g.iii also defines additional federally-enforceable SO_2 emission limits.

Under the GCD, the requested SO_2 emission limits apply beginning on the date of the permit application, except during periods specifically excluded as described in Paragraph IV.8.g.iii. Hence, AGI had to comply with the emission limitations as of July 6, 2015.

AGI requests the following SO2 emission limits. Pursuant to the GCD no proposed SO_2 limit can be higher than 2.5 pounds per ton of glass produced, determined as a 30-day rolling average

These limits will appear as follows in the revised air permit.

Table 2.2.A.2.a.

Furnace	**Emission Limits (lbs SO_2/ton of glass produced, 30-day rolling average)**	
	Flint (clear) glass	**Colored (all other) Glass**
	Combusting natural gas	**Combusting natural gas**
Furnace # 1 (ID No. GF-1)	2.0	2.4
Furnace # 2 (ID No. GF-2)	2.0	2.4

Note that the GCD allows compliance with the 30-day rolling average limits to be determined by averaging the emissions from both Furnaces subject to the same emission limit.

Note a number of terms are capitalized. These terms and some others as they will be used in the new permit condition (Section 2.2.A.2) that are defined in the Act or in federal regulations promulgated pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in the Consent Decree (Civil Action No. 2:10-cv-00121-TSZ) [Section 2.3 of this permit].

The limits during Furnace Startup, Maintenance of the Furnace, Malfunction of the Furnace, Color Transition, and Abnormally Low Production Rate Days are defined as follows: (*italicized language is the language as it appears in the GCD)*

1. *<u>SO_2 Limit during Abnormally Low Production Rate Days</u> – For any Abnormally Low Production Rate Day SGCI may elect to exclude the emissions generated during that Day from the Emission Rate 30-day Rolling Average. During these Days, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limit:*

$$SO_{2\ 2nd\ Abn} = [Applicable\ Permit\ Limit]\frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35}\right]$$

Where:	
$SO_{2\ 2nd\ Abn}$ =	*SO_2 emission limit for a Furnace during an Abnormally Low Production Rate Day, in pounds per day.*
Applicable Permit Limit	*Applicable Permit Limit = This is the permit limit that SGCI receives for each Furnace listed in Table 4 under Paragraph 8.g.iii for Color or Flint, whichever is currently being melted, in lb SO2 per ton of glass*
P =	*Furnace-specific production threshold as defined in Paragraph 10, in tons of glass produced per day.*

The Applicable Permit Limit is shown in the Table 2.2.A.2.a. The Furnace-specific production threshold is defined in Paragraph IV.10 of the GCD as follows:

*10. **Abnormally Low Production Rate Days** - The following values shall be used to determine Abnormally Low Production Rate Days for each Furnace.*

Table 6 – Abnormally Low Production Rate Day Thresholds

Facility and Furnace	*Abnormally Low Production Rate Day Threshold * (tons/day)*
Henderson, NC – Furnace #1	*112*
Henderson, NC – Furnace #2	*[135]* *[This value has been revised per application no. 9100069.11B]*

** Unless capacity subsequently increases as authorized by a revised permit limit. If production is increased by a Permit, the Abnormally Low Production Rate Day Threshold would be 35 percent of the new permitted production (or design production, where there is no permitted production) as determined on a daily basis (for the purpose of defining the Abnormally Low Production Rate Day Threshold).*

The SO2 Limits during Abnormally Low Production Rate Days will appear in the revised permit as follows:

Table 2.2.A.2.a.1

Furnace	**Abnormally Low Production Rate Threshold, (tons of glass produced per day)**	**Emission Limits During Abnormally Low Production Rate Days (lbs SO_2/day of glass produced, 24-hour block average)**	
		Flint (clear) Glass	**Colored (all other) Glass**
		Combusting natural gas	**Combusting natural gas**
Furnace # 1 (ID No. GF-1)	112	640	768
Furnace # 2 (ID No. GF-2)	135	770	924

2. SO_2 limit during Furnace Startup – the Permittee shall comply with the following operational limit to limit SO_2 emissions during all phases of Furnace Startup:

a. During the startup period, the Permittee will limit the amount of sulfur added to the batch materials to 2.6 pounds per ton of total batch material (including cullet) or less.

This is straightforward. This will be tracked through recordkeeping that is also required (more discussion below).

3. SO_2 limit during Malfunction of the Furnace – For any Operating Day where a Malfunction of the Furnace occurs for any period of time, the Permittee may elect to exclude the emissions generated during that Operating Day (or Operating Days if the event covers more than one Operating Day) from the Emission Rate 30-day Rolling Average. During the Malfunction Days excluded from the Emission Rate 30-day Rolling Average, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limits:

$$SO_{2\ 2nd\ Malf} = 3 \times 2.5 \frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35}\right]$$

Where:	
$SO_{2\ 2nd\ Malf}$ =	*SO_2 emission limit for a Furnace during a Malfunction Day, in pounds per day.*
P=	*Furnace-specific production threshold as defined in Paragraph 10 in tons of glass produced per day.*

Using the applicable values of P shown in Table 2.2.A.2.a.1 above the Emission Limits During Malfunction Days will appear in the revised permit as follows:

Table 2.2.A.2.a.3

Furnace	**Emission Limits During Malfunction Days (lbs SO_2/day of glass produced, 24-hour block average)**
	All Glass
	Combusting natural gas
Furnace # 1 (ID No. GF-1)	2,400
Furnace # 2 (ID No. GF-2)	2,888

4 *SO_2 limit during Maintenance – For any Operating Day where Maintenance activities on the Furnace are performed, SGCI may elect to exclude the Maintenance Day from the Emission Rate 30-day Rolling Average. For any Day which is excluded from the 30-day rolling average, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limit:*

$$SO_{2\ 2nd\ Maint} = \frac{MH \times [3 \times 2.5 \frac{lb\ SO_2}{ton} \times [\frac{P}{0.35}]]}{24} + \frac{NH \times [\frac{P}{0.35}] \times [App\ Limit] \frac{lb\ SO_2}{ton}}{24}$$

Where:	
$SO_{2\ 2nd\ Maint}$ =	*SO2 interim emission limit for a Furnace during a Maintenance Day, in pounds per day.*
P=	*Furnace-specific production threshold as defined in Paragraph 10 in tons of glass produced per day.*
MH =	*Hours of Maintenance*
NH =	*Normal Hours = 24 – MH*
App Limit=	*This is the permit limit that SGCI receives for each Furnace listed in Table 4 under Paragraph 8.g.iii for Color or Flint, whichever is currently being melted, in lb SO2 per ton of glass.*

Using the applicable values of P and App Limit shown in Table 2.2.A.2.a.1 above the Emission Limits During Maintenance Days will appear in the revised permit as follows:

Table 2.2.A.2.a.4

Furnace	Emission Limits During Maintenance Days (lbs SO_2/day of glass produced, 24-hour block average)	
	Flint (clear) Glass	**Colored (all other) Glass**
	Combusting natural gas	**Combusting natural gas**
Furnace # 1 (ID No. GF-1)	$MH * 100 + NH * 27$	$MH * 100 + NH * 32$
Furnace # 2 (ID No. GF-2)	$MH * 120 + NH * 32$	$MH * 120 + NH * 39$

Where:

MH = Hours of Maintenance

NH = Normal Hours = 24 – MH

5. *SO_2 limit during Color Transition – For any Operating Days during which a Color Transition is occurring SGCI may elect to exclude the emissions on such Days from the Emission Rate 30-day Rolling Average. During these Days, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limit:*

$$SO_{2\ 2nd\ Col\ Tran} = 2 \times 2.5 \frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35}\right]$$

Where:	
$SO_{2\ 2nd\ Col\ Tran}$ =	*SO2 interim emission limit for a Furnace during a Color Transition, in pounds per day.*
P =	*Furnace-specific production threshold as defined in Paragraph 10 in tons of glass produced per day.*

Using the applicable values of P shown n Table 2.2.A.2.a.1 above the Emission Limits During Color Transition Days will appear in the revised permit as follows:

Table 2.2.A.2.a.5

Furnace	Emission Limits During Color Transition Days (lbs SO_2/day of glass produced, 24-hour block average)
	Combusting natural gas
Furnace # 1 (ID No. GF-1)	1,600
Furnace # 2 (ID No. GF-2)	1,925

Monitoring recordkeeping and reporting

The GCD is specific with respect to the monitoring recordkeeping and reporting that is required. In summary, CEMs will be used to measure ppm concentrations of SO2 in each melter stack. The ppm values in conjunction with an

EPA approved method of measuring flowrate will be used to convert the ppm values into the appropriate mass emission rate units. Records must be maintained and annual reporting is required. The NC DAQ, consistent with other NSPS affected sources that use CEMs also requires AGI to submit quarterly excess emissions and monitoring system performance summary reports. The reports shall contain the information required per 40 CFR 60.7(c) and (d). The Permittee has had these systems in operation for a few years now, since they were also used to comply with the annual SO2 limits imposed by the GCD pursuant to Section IV.8.g.v.

The monitoring recordkeeping and reporting requirements will appear in the revised permit as follows:

Monitoring/Recordkeeping

d. The Permittee shall install, calibrate, certify, maintain, and operate the SO_2 CEMS pursuant to Section 2.3.I.15.c.
e. The Permittee shall comply with all the requirements and determine SO_2 emissions pursuant to Section 2.3.I.15.d.
f. The Permittee shall comply with the CEMS Certification Event requirements pursuant to Section 2.3.I.8.h.
g. The Permittee shall comply with the recordkeeping requirements found in Section 2.3.I.8.j and k.

Reporting

h. The Permittee shall comply with the reporting requirements found in Sections 2.3.I.35 through 40 and Section 2.3.II.

Each of the above requirements reference Section 2.3, which contains all the GCD language relevant to the Henderson facility. When AGI (Saint Gobain at the time of the GCD issuance) became subject to the GCD, it was decided to incorporate the GCD into the air permit with minimal changes to the language to ensure compliance over time. As milestones were met, italicized language was added to indicate as such instead of removing the language. To minimize duplication within the permit, cross-referencing to Section 2.3 will be made instead of wholesale duplication.
The GCD specifically requires the Permittee to "submit a complete application to the state/local permitting authority by June 30, 2015, for two federally-enforceable S02 emission limits." Generally all permit conditions in a Title V permit are both state and federal enforceable unless indicated otherwise. Since the DAQ incorporated the GCD into the air permit as state-enforceable only and to add clarity, the following indicator will be added to the new permit condition:

STATE AND FEDERAL-ENFORCEABLE

Other Permit Updates – Insignificant Activities List

896 BHP Emergency Engine
The current permit application requests the following (paraphrased):

> *AGI requests the inclusion of a 600kW (896 hp) emergency generator with an integrated 1,000-gallon sub-base diesel fuel tank to the insignificant activities list in the Title V permit. This request is being submitted in accordance with 15A NCAC 02Q .0523 -Changes Not Requiring Permit Revisions under 15A NCAC 02Q .0523(b) -Off Permit Changes. Detailed emission calculations and engine specification were previously submitted to NCDENR on June 9, 2014, see Appendix E for details.*

A review of the Henderson permit files shows a letter received June 4, 2014 which states the following:

> *AGI is submitting this off-permit change request to the North Carolina Department of Environment and Natural Resources (DENR) for the addition of an 896 hp emergency generator with an integrated 1,000-gallon sub-base diesel fuel tank to the insignificant activities list in the Title V permit. This request is being submitted in accordance with 15A NCAC 02Q .0523 - Changes Not Requiring Permit Revisions under 15A NCAC 02Q .0523(b)- Off Permit Changes. Detailed emission calculations demonstrating that*

the engine is an insignificant activity are included in Attachment 1. Engine specifications are included in Attachment 2.

A review of the calculations does show that these sources do meet the definition of insignificant activities because of size or production rate" defined at 15A NCAC 002Q .0503(8)

(8) "Insignificant activities because of size or production rate" means any activity whose emissions would not violate any applicable emissions standard and whose potential emission of particulate, sulfur dioxide, nitrogen oxides, volatile organic compounds, and carbon monoxide before air pollution control devices, i.e., potential uncontrolled emissions, are each no more than five tons per year and whose potential emissions of hazardous air pollutants before air pollution control devices, are each below 1000 pounds per year.

A full regulatory analysis was also included in the letter received on June 4, 2014. This engine will be subject to 15A NCAC .02D .0516, .0521, 0524 (40 CFR 60 NSPS Subpart IIII) and 02D .1111 (40 CFR 63 MACT ZZZZ).

The engine will emit TAPs which are regulated under 15A NCAC 2D .1100. Pursuant to 15A NCAC 02Q .0702 Exemptions:

(a) A permit to emit toxic air pollutants shall not be required under this Section for:
[…]
(27) an air emission source that is any of the following:
(A) […];
(B) an affected source under 40 CFR Part 63, as amended; or
(C) […]

However, the following aspect of the North Carolina Session Law 2012-91 was not codified into the 02Q .0702 exemptions regulation:

Upon receipt of a permit application for a new source or facility, or for the modification of an existing source or facility, that would result in an increase in the emission of toxic air pollutants, the Department shall review the application to determine if the emission of toxic air pollutants from the source or facility would present an unacceptable risk to human health.

The low emission rates associated with the operation of this engine are not expected to make an appreciable difference in the ambient concentrations of TAPs outside the property boundary. Note that the facility has much larger sources of TAPs in the form of two large glass melting furnaces. These sources have been subjected to a TAP compliance demonstration (dispersion modeling) in the past. In this engineer's opinion the operation of this emergency engine will not pose "an unacceptable risk to human health."

The engine and storage tank will be added to the insignificant activities list pursuant to 15A NCAC 02Q .0503(8).

Cullet Unloading and Hopper Loading Operations

A review of the Henderson permit files led to the discovery of another off-permit request letter received February 8, 2012 for cullet unloading and hopper loading operations at the facility. The letter states the following (paraphrased):

SGCI is submitting this off-permit change request to the North Carolina Department of Environment and Natural Resources (DENR) for the proposed addition of cullet unloading and hopper loading to the insignificant activities list in the Title V permit. This request is being submitted in accordance with 15A NCAC 02Q .0523- Changes Not Requiring Permit Revisions under 15A NCAC 02Q .0523(b)- Off Permit Change. At the Henderson facility, cullet is brought into the facility by railcar and truck and unloaded onto a pad. The cullet is then loaded into a hopper, which feeds a bucket elevator to the storage silo. Potential uncontrolled PM emissions from the cullet unloading and hopper loading are less than 5 tpy. Therefore, the cullet unloading and hopper loading meet the definition of " insignificant activities because

of size or production rate" in 15A NCAC 02Q .0503(8), […] All other cullet handling activities (storage, weighing, conveying, etc.) are included in the raw material handling emission unit (ES-1 through ES-3).

Detailed emission calculations for the cullet unloading and hopper loading operations are included in Attachment I.

A review of the calculations does show that these sources do meet the definition of insignificant activities because of size or production rate" defined at 15A NCAC 02Q .0503(8). These operations emit only PM. These operations will be added to the insignificant activities list pursuant to 15A NCAC 02Q .0503(8).

IV. Facility Compliance Status

During the most recent inspection conducted on June 24, 2015 by Mr. Will Wike of the Raleigh Regional Office (RRO), the facility appeared to be in compliance with all applicable requirements.

V. NSPS, NESHAP, PSD and CAM Applicability

NESHAP (MACT), NSPS and PSD
This modification has no implications with respect to NSPS. NESHAP, MACT or PSD regulatory programs.

CAM
The modifications addressed in this review have no implications with respect to CAM.

VI. Changes to the existing permit no. T35

Existing Condition No.	New Condition No.	Changes
Cover Letter	Same	Revised dates, permit numbers, etc. using current shell standards
Insignificant Activities List	Same	• Emergency Generator (ID No. IS-DG4) was added to the list • Diesel Storage Tank (ID No. IS-DT3) was added to the list • Cullet unloading and hopper loading operations (ID No. IS-CUL) was added to the list • Made numerous revisions to the existing list based on draft permit comments received on 5/12/2016 including: ▪ Renamed ID No. SC1 Hot End Coating ▪ Revised IS-PW-SK to read “Parts washing unit using non-hazardous solvent” ▪ Revised IS-PS1 to read “parts washing/ aqueous cleaner” ▪ Deleted IS-DO Electric Delivery Oven(s) ▪ Various minor typographical errors
Permit page 1	Same	• Revised dates, permit numbers, etc. using current shell standards
2.1.A.	Same	• Revised applicable regulations table to reflect all current regulatory applicability addressed in Sections 2.1 and 2.2
2.1.A.6	Same	• Revised wording regarding the requirement to submit a permit application if necessary. This requirement is state enforceable only.
2.1.B.	Same	• Revised applicable regulations table to reflect all current regulatory applicability addressed in Sections 2.1 and 2.2

Existing Condition No.	New Condition No.	Changes
NA	2.2.A.2	• Added a federally enforceable permit condition pursuant to Section IV, paragraph 8.g of the Consent Decree in the matter of *United States v. Saint-Gobain Containers, Inc.* (Civil Action No. 2:10-cv-00121-TSZ) relating to alleged violations of the Clean Air Act.
2.3.	NA	• Deleted permit shield section at the request of the Permitee
Section 2.4 (Global Consent Decree)	2.3	• Added clarifying text to indicate which paragraphs of the Consent Decree have been satisfied.

VII. Public Notice/EPA and Affected State(s) Review

(See chronology in Section II for actual dates)

A notice of the DRAFT Title V Permit will be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice will be sent (via email) to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit (via email) and each final permit shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit will be provided (via email) to each affected State at or before the time notice provided to the public under 02Q .0521 above. Pursuant to 15A NCAC 02Q .0518, the DAQ will not issue the final permit until EPA's 45-day review period has expired or until EPA has notified the Director that EPA will not object to issuance of the permit revision, whichever occurs first.

VIII. Recommendations

TBD